

ABSTRACT OF THE INVENTION

The present invention provides a method for controlling pressure in a vacuum chamber during a time division multiplexed process. A throttle valve is pre-positioned and held for a predetermined period of time. A process gas is introduced into the vacuum chamber during the associated plasma step (deposition or etching) of the silicon wafer. At the end of the predetermined period of time, the process gas continues to flow with the throttle valve being released from the set position. At this point, the throttle valve is regulated through a proportional derivative and integral control for a period that lasts the remaining time of the associated plasma step.

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